Defense Technical Information Center Compilation Part Notice

ADP010806

TITLE: Tactical Unmanned Aerial Vehicle [TUAV]. Reconnaissance Support to Small Scale Contingencies [SSC]

DISTRIBUTION: Approved for public release, distribution unlimited

This paper is part of the following report:

TITLE: 12th Annual NDIA SO/LIC Symposium & Exhibition, 12-14 Feb 2001, Arlington VA. NDIA Event #1880

To order the complete compilation report, use: ADA391108

The following component part numbers comprise the compilation report:

ADP010797 thru ADP010815

TACTICAL UNMANNED AERIAL VEHICLE (TUAV) RECONNAISSANCE SUPPORT TO SMALL SCALE CONTINGENCIES (SSC)

AIR FORCE BATTLELAB KENNY CLASS INITIATIVE (Maj Steve Bishop)
HEADQUARTERS AIR FORCE SPECIAL OPERATIONS COMMAND
Lt Col Janice Morrow
TSgt Christopher Crutchfield

UNCLASSIFIED//FOR OFFICIAL USE ONLY

BACKGROUND

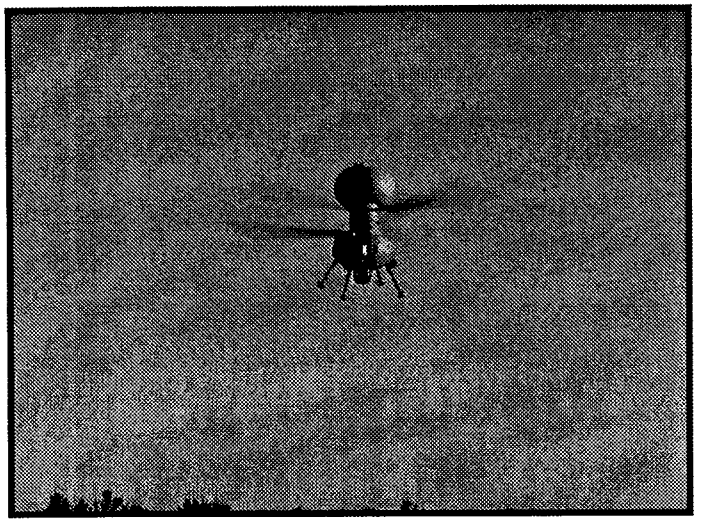
Special Forces Loading at Libreville, Gabon

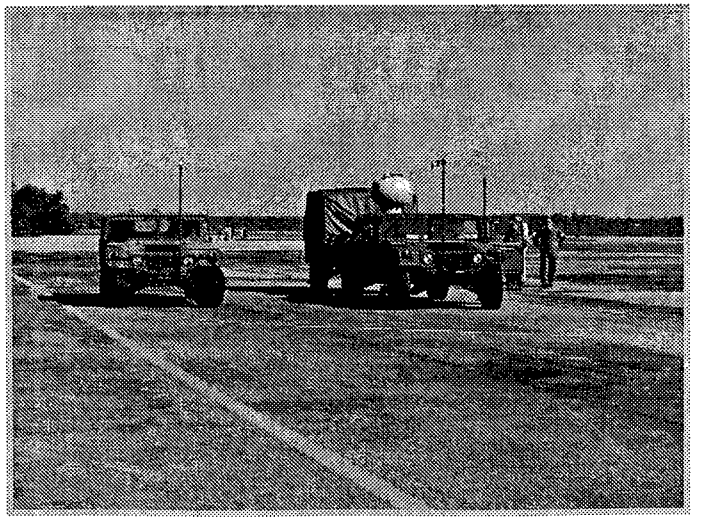
- Demonstrated shortfalls in several theaters
- NEOs
  - Liberia, CAR, Congo, Albania, Haiti
- HUMROs
  - Rwanda, Burundi, Congo, Zaire,
- Poor tactical reconnaissance coverage
- Need for a small footprint and transportable vehicle
- Request from EUCOM to look at problem

PLAYERS

- UAV Battlelab, ISR Division
- HQ AFSOC/XPPD
- 18th FLTS
- 720 Special Tactics Group
- 23 Special Tactics Squadron
- Eglin AFB Special Projects/Contracting
- Bombardier Aerospace, U.S.A.
- L3 Communications
- FLIR Systems

CL-327 GUARDIAN





- **Endurance**
  - 6.25 hours
  - Range 100km
- **Size:**
  - 770 lbs
  - 13.1 feet rotor diameter
  - 6 feet in height
- **Payload**
  - EO/IR
  - 220 lbs
- **Speed**
  - Hover to 85kts dash

MISSION STATEMENT

Demonstrate the military worth of using a Tactical UAV (TUAV) to pass real-time video directly to AF Special Operations air and ground units in simulated Small Scale Contingency (SSC) environment.

OBJECTIVES

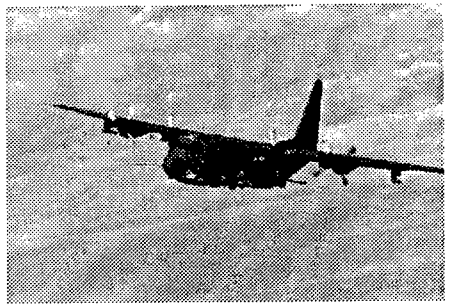
- Assess VTOL UAVs overall operational suitability to support SOF missions by passing real-time video to mobile AFSOC STS, Joint Survey and Assessment Teams

- Assess VTOL UAVs overall operational suitability to support SOF missions by passing real-time video to airborne AC-130 gunship orbiting 20 NM from UAV

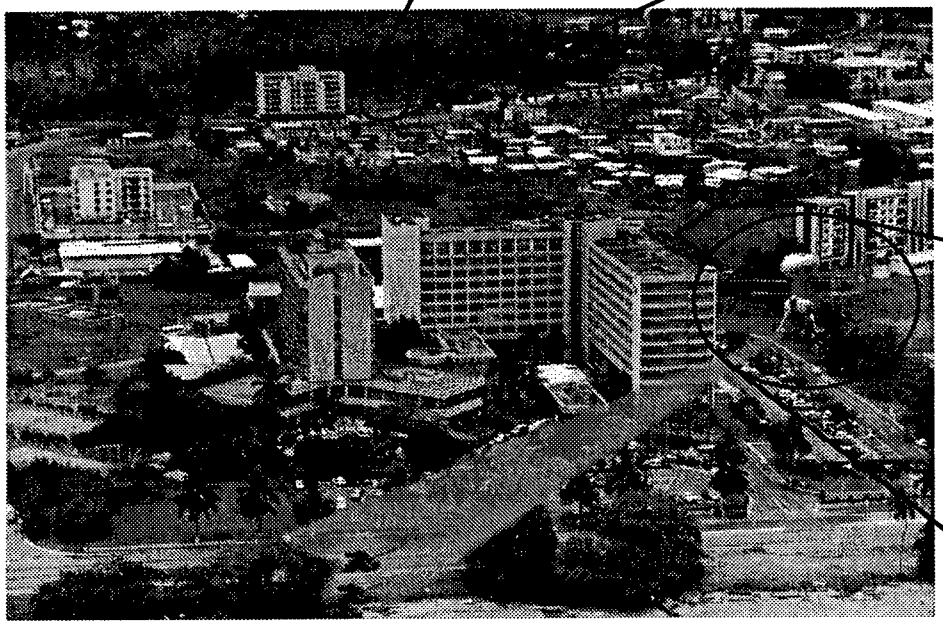
METHODOLOGY

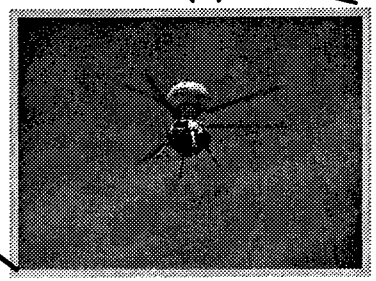
- Determine UAV ability to pass real-time video to STS teams in the field
- Rate usability of video information provided to STS teams.
- Determine UAV ability to pass real-time video to AC-130H aircraft
- Rate usability of video information provided to AC-130H aircrews
- Determine ability to transport UAV and associated equipment on C-130

3. UAV simultaneously passes Video to ground units and they adjust mission accordingly based on situation



2. UAV Passes Video to AC-130H monitoring situation 20 NM out of harms way

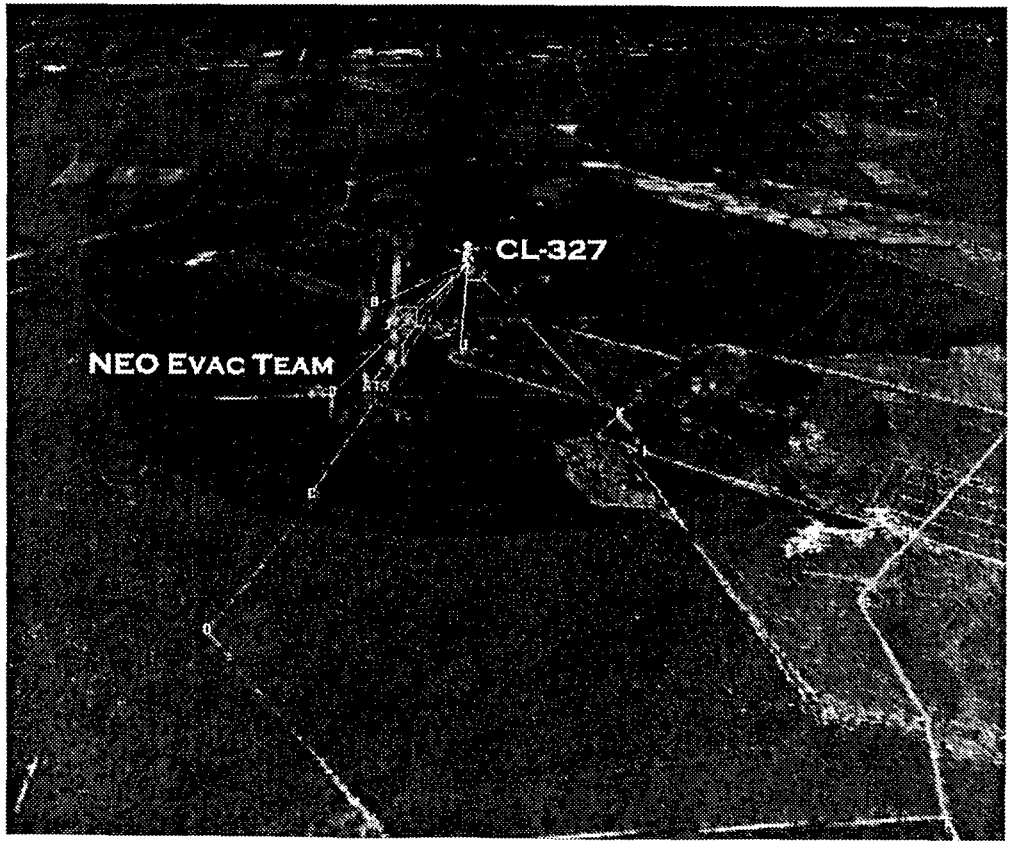




1. UAV on station and gathers Video on the situation prior to mission execution

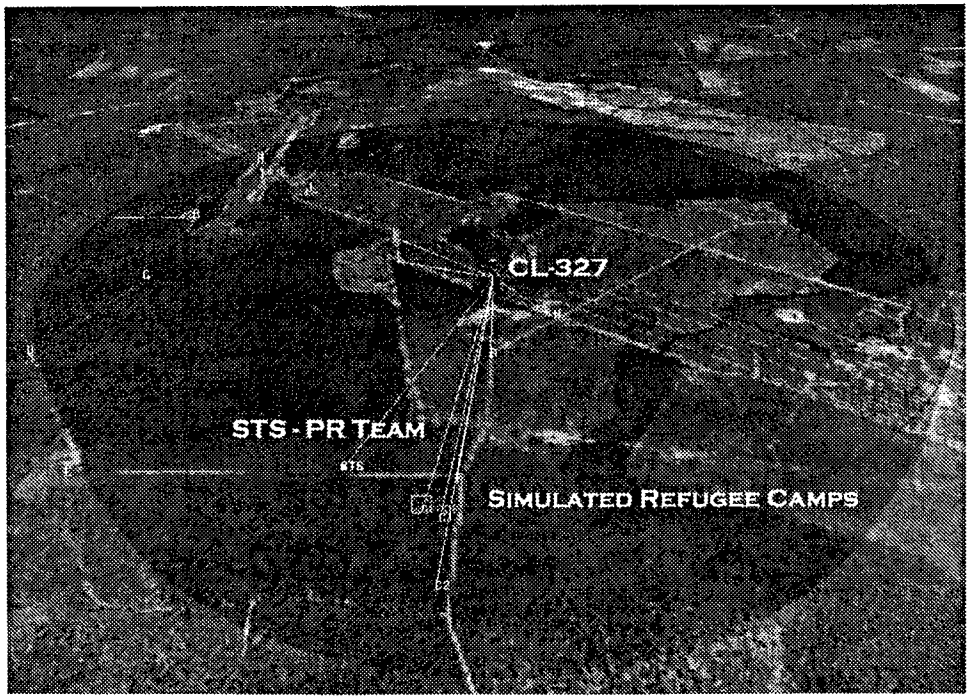
Non Combatant Evacuation Scenario
Humanitarian Relief Operation Scenario

SSC DEMONSTRATION NEO SCENARIO



- **Use UAV to**
  - **Pass real-time video to AC-130H**
  - **Assist STS team in avoidance of threat**
  - **Assist STS Team in prosecution of hostile targets in conjunction with AC-130H**
  - **Determine best evacuation route**

SSC DEMONSTRATION HUMRO SCENARIO



- **Use UAV to**
  - **Pass real-time video to AC-130H**
  - **Assist STS team in avoidance of threat**
  - **Assist STS Team in prosecution of hostile targets in conjunction with AC-130H**
  - **Determine best evacuation route**
  - **Identify location of simulated Refugee Camps**
  - **Determine if camps are occupied and locate migration of refugees**

RESULTS

Technical:

- UAV Video to AC-130.....
- UAV Video to AC-130 - 20 NM.....
- UAV Video to STS .....

Scenarios:

- NEO Scenario.....
- HUMRO Scenario.....
- Deployability.....

Success Partial Success Unsuccessful

CONCLUSIONS

- UAVB/18th FLTS proved the military utility and concept that a VTOL UAVs can enhance situational awareness
- Use of UAV and supporting equipment would be effective in improving SOF mission capability
- VTOL UAVs show potential to support theater CINCs in an SSC environment

RECOMMENDATIONS

- Integrate UAVs to support unique SOF requirements.
- Refine and formalize requirements and conops for UAVs supporting SOF missions.
- Pursue acquisition of a capability to receiving real-time video from existing UAVs directly to AF SOF air and ground forces as well as to Security Forces.

QUESTIONS ?

Maj Steve Bishop, Program Manager: UAVB/DOI

Unmanned Aerial Vehicle Battlelab

1003 Nomad Way Suite 107

Eglin AFB, Florida - U.S.A 32536-6867

stephen.bishop@eglin.af.mil

Lt Col Janice Morrow: HQ AFSOC/XPPX

janice.morrow@hurlburt.af.mil